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FEDERAL - STATE COOPERATIVE

SNOW SURVEYS AND IRRIGATION WATER FORECASTS

for

Colorado River Drainage Basin

MAR 1 1952
U.S. DEPARTMENT OF AGRICULTURE

By

Division of Irrigation, Soil Conservation Service
United States Department of Agriculture
and
Colorado Agricultural Experiment Station

Data included in this report were obtained by the agencies named above in cooperation with the U. S. Forest Service, National Park Service, State Engineers of Colorado, Wyoming and New Mexico and other Federal, State and local organizations.

As of

FEB. 1, 1952

FEDERAL-STATE COOPERATIVE
SNOW SURVEYS AND IRRIGATION
WATER SUPPLY FORECASTS

FOR

COLORADO RIVER BASIN

February 1, 1952

Report Prepared

by

Homer J. Stockwell, Irrigation Engineer

Division of Irrigation
Soil Conservation Service
Colorado Experiment Station
Fort Collins, Colorado

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WATER SUPPLY OUTLOOK
COLORADO RIVER DRAINAGE
February 1, 1952

Snow accumulation on the headwaters of the Colorado River in Colorado, Wyoming and New Mexico to February 1 is very much above normal. In most areas in Colorado the snow water contents measured on February 1, 1952 far exceed any previous measurement on this date. Snow is also unusually deep in valley elevations above 6000 feet. Soil moisture conditions are reported as good over the Upper Colorado River Basin. Reservoir storage in the upper basin is about the same as a year ago.

The water supply outlook for Arizona tributaries is much better than for several years. Precipitation has been above normal during the fall and winter months and streamflow has been relatively high.

COLORADO RIVER AND TRIBUTARIES IN COLORADO

Colorado River (Above Glenwood Springs): The snow cover on the Colorado River above Glenwood Springs is 186 percent of normal and substantially above a year ago. Similar snow fall has occurred over the Upper Colorado River watershed including the Blue, Roaring Fork and Eagle drainages and the Grand Mesa area near Grand Junction. The snow cover is unusually heavy in valley areas near Kremmling, Eagle and in Glenwood Canyon. Three feet of snow is reported on the ground at Eagle. Soil moisture conditions are reported as good and stream flow above normal. Storage in Green Mountain reservoir is now about 99,401 feet as compared to 92,400 a year ago on this date.

Gunnison River: On the headwaters of the Gunnison River and the North Fork of the Gunnison the snow cover is unusually high. For all snow courses on the watershed the percentage of normal is 200 percent. On the Taylor and East Rivers and on Tomichi Creek the snow cover is near 250 percent of normal. Soil moisture conditions are reported as excellent and stream flow above normal. Storage in Taylor Park Reservoir is now 52,900 acre feet as compared to 47,000 acre feet on February 1, 1951.

Yampa and White Rivers: On the Yampa River the snow cover is at a record high for February 1. The heavy snow extends into the Steamboat Springs area and even to lower elevations. Similar conditions exist on the Elk and Little Snake Rivers which are tributaries to the Yampa. pPrecipitation has been above normal and soil moisture conditions will be excellent when the snow melts at lower elevations. On the White River snow cover is somewhat less than for the Yampa at 140 percent of normal. Soil moisture in the Meeker area is reported as very good. Stream flow is above normal.

San Juan and Animas Rivers: Snow cover on the San Juan mountains as of February 1 is at a record high for this date. On some courses snow water contents were as high as have been recorded at any previous date on April 1 or May 1. Snow also extends to valley elevations with 3 feet reported on the ground at Durango. Soil moisture conditions are excellent over the San Juan Basin. Stream flow is above normal. With normal snow fall for the remainder of the season the summer flow of the San Juan and its tributaries will be higher than for any year since snow surveys were started in 1936. Storage in Vallecity Reservoir 24,800 acre feet as compared to 23,900 acre feet on February 1, 1951.

Dolores River: From limited snow surveys on the headwaters of the Dolores and San Miguel the snow cover as of February 1 is very high. Soil moisture conditions are excellent and stream flow well above normal for this date.

COLORADO RIVER AND TRIBUTARIES IN ARIZONA

There is still considerable water available in the form of snow on the higher elevations of the Verde River Drainage. The snow begins to thin out below 6,500 feet. Soil moisture conditions are very good on this drainage. Snow depths vary from 6 inches to 2½ feet along the east slopes of the Verde, and considerably less than this on the west slopes. Forecast for the Verde above Horseshoe for the period February through April is 110,000 acre-feet.

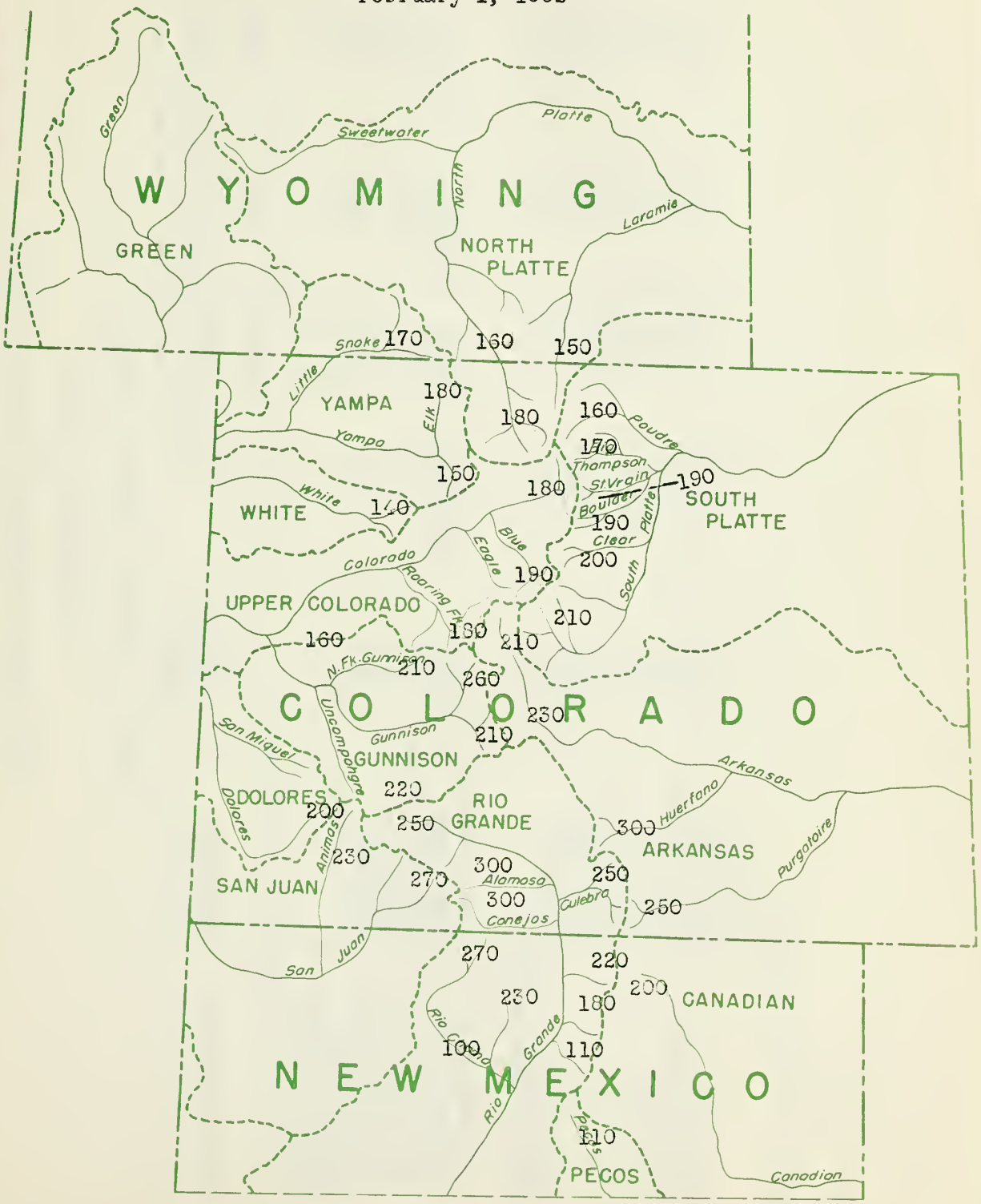
About 15 inches of water are available in 4 feet of snow in the Big Lake area of Mt. Baldy. Soil moisture conditions are very good. Temperatures have been above normal and winds not too severe. These conditions are favorable for good runoff. The snow is generally gone below 7,500 feet on this drainage. Forecase for the flow of the Salt River above Roosevelt for the period February through May is 350,000 acre feet. Reservoir storage in the Salt River project is the best it has been in 10 years.

Soil moisture conditions on the Gila River are good but snow fall is not sufficient to produce as good a runoff as on the Salt and Verde Rivers. The San Carlos Reservoir on the Gila River has stored 150,000 acre feet to date as a result of early winter storms. No forecast will be made at this time for the Gila River.

WATER CONTENT OF SNOW ON THE WATERSHEDS OF PLATTE, ARKANSAS, UPPER COLORADO AND RIO GRANDE BASINS BASED ON SNOW SURVEYS MADE APPROXIMATELY FIRST DAY OF MONTH

In Percent of Normal

February 1, 1952



SNOW SURVEYS AND IRRIGATION WATER FORECASTS

COLORADO RIVER BASIN

STATUS OF RESERVOIR STORAGE, FEBRUARY 1, 1952

BASIN AND STREAM	RESERVOIR	USABLE CAPACITY (Thous.A.Ft.)	THOUSANDS ACRES FEET IN STORAGE About February 1				
			1952	1951	1950	1949	10-year Avg.* 1942-1951
COLORADO DRAINAGE							
Taylor River	Taylor Park	106.2	53.1	47.3	70.2	61.6	69.7
Los Pinos River	Vallecito	126.3	24.8	23.9	49.4	57.5	42.4
Groundhog Creek	Groundhog	21.7	--	3.0	7.5	6.0	8.5 *
Blue River	Green Mountain	146.9	99.4	92.3	113.6	72.2	68.6 *
Colorado River	Lake Mead	27935.0	17,375.0	17,654.0	18,961.0	19,489.0	19,660.2
Colorado River	Lake Havasu	688.0	577.8	619.7	595.4	592.0	575.3
SALT AND GILA DRAINAGE							
Salt River	Roosevelt	1420.0	480.2	3.0*	340.6	223.5	496.9
" "	Horse Mesa	245.0	173.8	170.0*	203.4	103.8	192.9
" "	Mormon Flat	58.0	46.5	58.0*	25.8	27.3	25.0
" "	Stewart Mt.	70.0	39.5	70.0*	22.0	25.3	17.8
Verde River	Bartlett	200.0	155.5	3.0*	34.7	76.5	30.5
Aqua Fria River	Carl Pleasant	173.0	145.0	0.0*	5.7	16.1	18.2
Gila River	San Carlos	1200.0	36.0*	0.0*	92.8	145.7	201.3
	Horseshoe		62.9				

*Some for shorter periods

*As of Jan. 15.

SNOW SURVEYS AND IRRIGATION WATER FORECASTS
for
COLORADO RIVER BASIN
February 1, 1952

SUMMARY OF FEBRUARY 1 SNOW SURVEYS AND COMPARISON OF DATA WITH THAT OF PREVIOUS YEARS BY WATERSHEDS

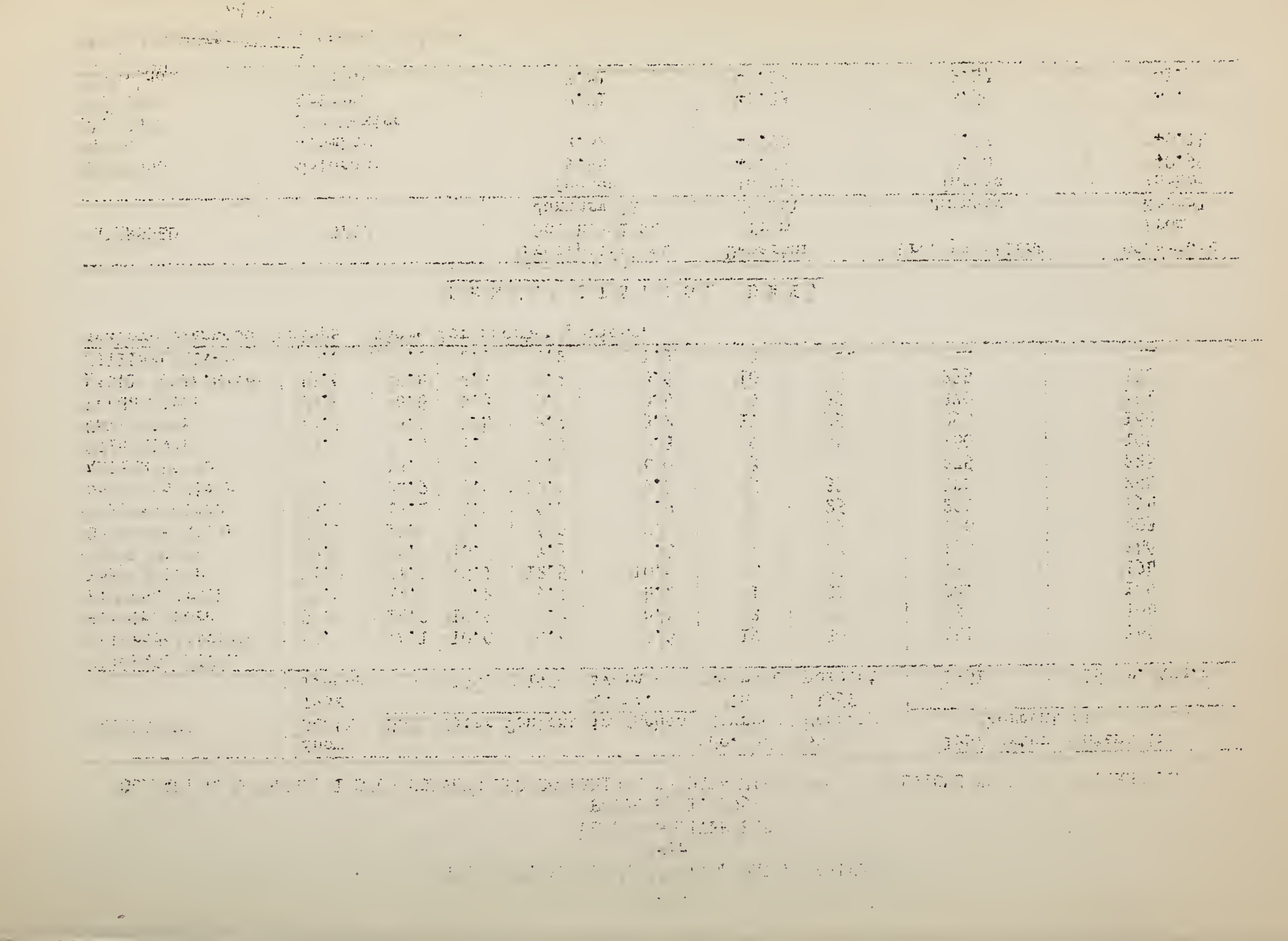
WATERSHEDS	Snow Depth 1952 Inches	Snow Water Content in Inches				No. of Courses in Average	Snow Density 1952 Percent	1952 Water Content in Percent of	
		1952	1951	1950	15 yr.* Average			1951	15 yr. Avg.*
COLORADO RIVER									
Colorado River**	47.8	14.1	10.0	6.4	7.6	19	30	141	186
Roaring Fork	52.0	14.9	10.9	9.8	8.1	3	29	137	184
Plateau Creek	58.0	17.4	6.2	9.7	4.2	1	30	281	189
Yampa River	71.2	21.0	15.1	12.5	10.8	4	30	139	194
White River	52.5	14.0	10.5	7.3	9.6	2	27	133	146
Gunnison River	50.1	14.4	8.5	6.9	7.1	9	29	170	203
Dolores River	53.4	13.4	6.7	6.2	6.9	3	25	200	194
San Juan River	71.0	24.9	7.6	17.4	9.8	5	35	328	254
Animas River		13.7	5.0	4.3	6.0	3		275	228
Gila River	6.6	2.4	1.5	0.9	2.3	9	36	160	104
Salt River	17.3	6.0	2.4	2.7	3.2	11	35	250	188
Verde River	13.5	4.8	1.3	2.8	3.4	9	35	370	141
Little Colo.River	13.6	5.4	2.3	3.2	3.6	10	40	235	150
Williams River	0.0	0.0	0.1	0.2	1.3	3	--	--	--

**Above Glenwood Springs *Same for shorter periods.

P R E C I P I T A T I O N D A T A

WATERSHED	STATE	Precipitation* October 1 to January 31	Departure from Normal	Precipitation* January	Departure from Normal
		Inches	Inches	Inches	Inches
Colorado	Colorado	9.96	+4.09	2.60	+0.99
Green	Wyoming	3.82	+0.90	0.77	+0.14
San Juan	New Mexico				
Colorado	Arizona	9.01	+4.23	3.58	+2.26
Gila	Arizona	7.81	+3.02	2.47	+1.10

*Avg. selected high altitude station



COLORADO RIVER DRAINAGE SNOW SURVEYS
February 1, 1952

Drainage Basin and Snow Course	Location No. and State	Sec.	Twp.	Range	Elev.	Snow Cover Measurements: Date of Survey	Snow Depth (Inches)	Water Content (Inches) 1952	1951	1950	Past Record: Yrs. of Rec.	Av. Water Content (Inches)
						COLORADO RIVER						
COLORADO RIVER (above Glenwood Springs)												
Cameron Pass*	1 Colo.	2	6N	76W	10300	1/26	62.0	18.5	14.0	12.3	13	12.0
Park View*	7 "	24	5N	78W	9200	2/1	42.2	11.5	5.7	6.1	14	5.5
Phantom Valley	12 "	7	5N	75W	9300	1/30	42.5	12.0	9.5	5.4	16	5.8
Hoosier Pass	14 "	13	8S	78W	11400	1/31	43.1	12.1	11.4	4.5	13	6.2
Berthoud Pass	16 "	35	2S	75W	9700	1/30	54.0	15.4	10.9	5.8	16	8.8
Tennessee Pass	19 "	21	8S	80W	10200	2/3	46.8	11.9	8.6	5.5	16	4.9
M. Fork Camp Gr.	37 "	16	3S	77W	9000	1/30	38.9	11.6	7.5	3.0	15	5.7
Fiddler Gulch	44 "	1	8S	80W	11000	1/31	57.0	19.0	14.5	8.1	15	8.7
Willow Creek P.	62 "	1	4N	78W	9500	2/1	56.7	16.7	6.8	8.4	12	6.9
N. Inlet Grand L.	64 "	26	4N	75W	9000	2/3	44.0	12.4	6.7	3.8	13	5.3
Lake Irene	65 "	8	5N	75W	10600	2/3	72.5	20.0	17.8	10.7	13	12.9
Arrow	69 "	34	1S	75W	9900	1/30	41.4	11.9	7.4	4.2	13	5.3
Fremont Pass #2	79 "	2	8S	79W	11400	1/29	58.4	16.9	15.2	8.6	16	8.8
Lynx Pass	91 "	27	2N	88W	9100	1.27	34.0	9.0	5.7	6.1	15	7.4
Shrine Pass	96 "	15	6S	79W	10500	1.29	56.8	16.7	14.9	8.8	10	9.9
Grizzly Peak	97 "	2	5S	76W	11250	1/25	62.0	20.0	15.7	9.8	10	10.4
Glen-Mar Ranch	102 "	31	2S	77W	8850	1/30	37.9	11.6	7.5	2.9	4	6.0
Granby	112 "	11	2N	77W	8700	1.27	38.4	9.6	3.5	3.3	3	4.3
Grand Lake	127 "	36	4N	75W	8600	1/31	43.0	10.9	6.8	3.9	3	6.4
Berthoud Summit	138 "	10	2S	75W	11300	1/27	65.5	18.7	12.8			
Frazer View	139 "	34	2S	75W	10600	1/27	48.7	15.2	8.2			
Gore Pass	143 "	2	1N	82W	8900	1/26	40.8	10.3	5.8			
Frisco	146 "	18	6S	78W	9300	1/29	33.0	9.2	8.6			
Snake River	147 "	9	5S	76W	9700	1/25	41.0	10.1	9.2			
Summit Ranch	158 "	8	4S	78W	10000	1/26	42.6	12.6	5.8			
	Average for drainage						47.8	14.1	10.0	6.3		7.6

*On adjacent drainage

COLORADO RIVER SNOW SURVEYS
February 1, 1952

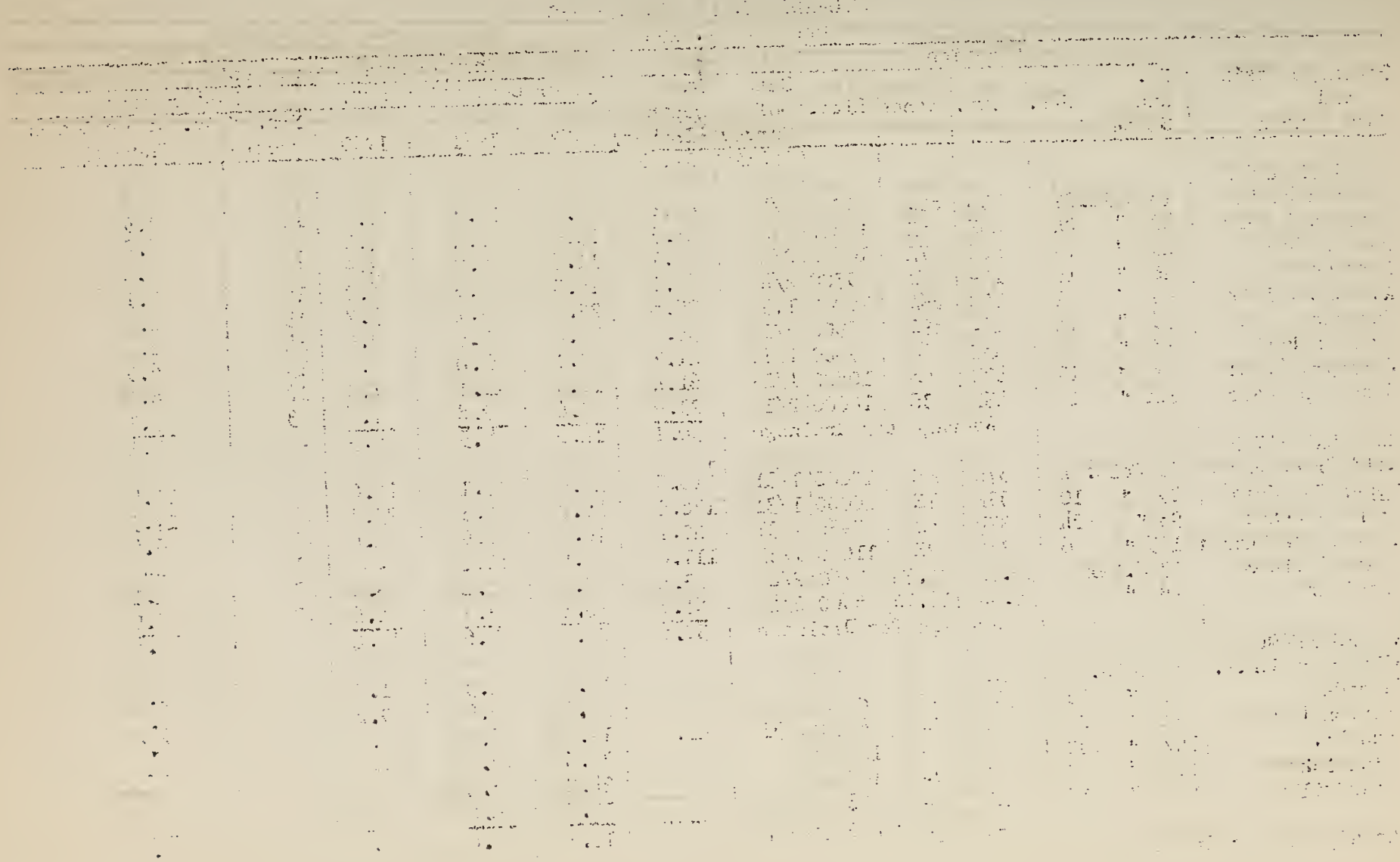
Drainage Basin and Snow Course	Location					Date of Survey	Snow Depth (Inches)	Snow Cofer Measurements				
	No. and State	Sec.	Twp.	Range	Elev.			Water Content (Inches) 1952	1951	1950	Past Record Yrs. of Record	Past Record Av. Water Content (Inches)
COLORADO RIVER												
ROARING FORK												
Ind. Pass Tunnel	33 Colo.	30	11S	82W	10700	1/30	55.8	16.0	13.9	9.8	16	9.9
Nast	45 "	1	9S	83W	8700	2/2	37.0	10.0	61.	3.0	15	4.1
Ivanhoe	100 "	12	9S	82W	10400	1/30	63.2	18.8	12.8	16.7	6	10.2
Woods Lake	131 "	2	8S	83W	11000	1/29	59.6	15.2	8.4	9.2	2	8.8
			Average for drainage				52.0	14.9	10.9	9.8		8.1
YAMPA RIVER												
Dry Lake	6 Colo.	26	7N	84W	8200	2/2	72.8	21.2	14.4	10.3	11	11.1
Columbine Lodge*	8 "	21	5N	82W	9300	1/29	82.1	23.2	20.9	11.0	16	13.7
Elk River	9 "	6	10N	85W	8700		—	—	9.5	12.9	13	9.6
Lynx Pass*	91 "	27	2N	83W	9100	1/27	34.0	9.0	5.7	6.1	15	7.4
Routt Line	140 "	13	5N	83W	9700	1/29	105.6	32.8	28.8		1	—
Rabbit Ears	141 "	30	5N	83W	9550	1/29	85.3	25.7	21.0		1	—
Yampa View	142 "	21	5N	84W	8500	1/29	56.8	15.9	6.8		1	—
Old Battle*	9 Wyo.	29	14N	85W	9800	1/28	95.9	30.5	19.4	22.6	14	18.4
			Average for drainage				71.2	21.0	15.1	12.5		10.8
WHITE RIVER												
Burro Mountain	35 Colo.	15	2S	91W	9000	2/1	54.8	17.2	8.3	8.4	16	10.1
Rio Blanco	36 "	28	1N	88W	8500	2/1	50.2	10.8	12.7	6.1	12	9.1
			Average for drainage				52.5	14.0	10.5	7.3		9.6
PLATEAU CREEK												
Mesa Lakes	56 Colo.	35	11S	96W	10000	2/4	58.0	17.4	6.2	9.7	15	9.2

*On adjacent drainage

COLORADO RIVER SNOW SURVEYS
February 1, 1952

Drainage Basin and Snow Course	Location					Snow Course Measurements						
	No. and State	Sec.	Twp.	Range	Elev.	Date of Survey	Snow Depth (Inches)	Water Content(Inches) 1952	1951	1950	Past Record Yrs. of record	Av. Water Content (Inches)
COLORADO RIVER												
GUNNISON RIVER												
Crested Butte	18 Colo.	22	13S	86W	9000	2/4	65.4	19.3	13.8	11.0	16	7.9
Marshall Pass	42 "	24	48N	6E	10800	2/2	47.3	13.0	9.4	3.5	16	6.8
Poncha Creek*	43 "	19	48N	7E	10500	2/2	39.7	11.5	9.0	3.9	16	6.4
Park Cone	46 "	19	14S	82W	9700	2/4	61.1	16.5	7.9	6.2	16	5.1
Alexander Lake	53 "	2	12S	25W	10000	1.30	75.6	22.5	9.1	15.7	15	12.7
Snowshoe Mesa	55 "	14	13S	89W	7500	2/1	36.8	10.8	7.5	9.6	14	6.2
Ironton Park	58 "	29	43N	7W	9800	1/31	41.7	12.1	6.0	2.6	15	6.9
Porphyry Creek	89 "	19	49N	6E	10800	1/29	61.4	17.9	11.1	7.0	12	8.9
Cochetopa Pass	126 "	12	45N	3E	10000	2/1	21.9	5.6	2.8	1.5	3	3.1
			Average for drainage				50.1	14.4	8.5	6.9		7.1
SAN JUAN RIVER												
Wolf Creek Pass*	26 Colo.	4	37N	2E	10000	1/31	116.5	42.0	13.1	24.0	12	15.5
Upper San Juan	29 "	10	37N	1E	10000	1/31	126.0	46.0	16.3	25.7	12	17.9
Granite Peaks	93 "	24	37N	6W	7950	1/31	40.2	10.6	2.9	4.4	10	5.6
Wolf Creek Summit	155 "	6	37N	2E	11000	1/31	117.0	40.4	12.1	--	1	--
Chama Divide*	17 N.Mex		36.9N	106.7W	7750	2/4	23.4	7.7	2.4	3.3	12	4.1
Chamita*	18 "		36.9N	106.7W	8500	2/4	51.7	18.3	3.5	4.6	10	5.9
			Average for Drainage				59.6	24.9	7.6	12.4		9.8
ANIMAS RIVER												
Silverton Sub.S.	30 Colo.	10	41N	7W	9400			10.3	4.3	1.0		3.6
Cascade	31 "	12	39N	9N	8850			18.6	4.8	9.2		7.4
Ironton Park	58 "	29	43N	7W	8700	1/31	41.7	12.1	6.0	2.6		6.9
Spud Mt.	149 "	32	40N	8W	10700			32.5	12.2	--		--
Molas Lake	150 "	7	40N	7W	10500			24.8	8.4			
Howardville	151 "	15	41N	7W	9800			17.5	6.4			
			Average for Drainage					13.7	5.0	4.3		6.0

*On adjacent drainage



COLORADO RIVER SNOW SURVEYS
February 1, 1952

Drainage Basin and Snow Course	Location					Snow Course Measurements						
								Water Content (Inches)			Past Record	
	No. and State	Sec.	Twp.	Range	Elev.	Date of Survey	Snow Depth (Inches)	1952	1951	1950	Yrs. of Record	Av. Water Content (Inches)
COLORADO RIVER												
DOLORES RIVER												
Rico	23 Colo.	11	39N	11W	8700	1/29	52.4	15.7	5.0	5.5	12	5.6
Telluride	24 "	6	42N	8W	8600	1/29	38.7	9.8	6.0	3.4	12	4.9
Trout Lake	114 "	8	41N	9W	9700	1/29	69.0	14.7	9.1	9.7	3	10.2
			Average for drainage				53.4	13.4	6.7	6.2		6.9
GILA RIVER												
Frisco Divide	11 N.Mex.	21	6S	20W	8000	2/1	3.4	1.4	1.6	1.3	14	2.4
State Line	14 "	5	6S	21W	8000	2/1	6.6	2.5	1.5	1.0	14	2.9
Taylor Creek	22 "	20	10S	10W	7850				1.8	0.0	10	.9
Inman	23 "	6	11S	10W	7800				2.0	0.0	5	1.1
Nutrioso	1 Ariz.	23	6N	30E	8500	1/31	11.1	3.6	0.9	0.9	14	2.5
Beaver Head	2 "	13	4N	30E	8000	2/1	9.3	4.0	—	2.3	14	3.4
Coronado Trail	3 "	26	5N	30E	8000	1/31	15.7	5.2	1.1	0.7	14	3.6
Rose Canyon	29 "	15	12S	16E	7300	2/1	0.0	0.0	1.3	0.0	2	1.3
Bear Wallow	30 "	6	12S	16E	810-	2/1	0.0	0.0	1.9	2.6	2	2.3
			Average for drainage				6.6	2.4	1.5	0.9		2.3

*On adjacent drainage

COLORADO RIVER SNOW SURVEYS
February 1, 1952

Drainage Basin and Snow Course	Location					Snow Course Measurements						
	No. and State	Sec.	Twp.	Range	Elev.	Date of Survey	Snow Depth (Inches)	Water Content (Inches)			Past Record	
								1952	1951	1950	Yrs. of Rec.	Av. Water Content (Inches)
COLORADO RIVER												
SALT RIVER												
Forest Dale	5 Ariz.	2	9N	21E	6000	2/1	0.0	0.0	1.0	1.2	11	1.5
McNary	4 "	14	8N	23E	7200	2/1	0.0	0.0	2.7	2.3	12	3.4
Nutrioso	1 "	23	6N	30E	8500	1/31	11.1	3.6	0.9	0.9	13	2.5
Coronado Trail	3 "	26	5N	30E	8000	1/31	15.7	5.2	1.1	0.7	13	3.6
Milk Ranch	6 "	28	8N	23E	7000	2/1	0.0	0.0	0.9	1.7	11	2.0
Gentry	28 "	36	11N	15E	7600	1/30	14.5	5.8	2.5	3.0	2	2.8
Canyon Creek	26 "	18	11N	15E	7500	1/30	17.6	6.8	2.9	4.1	2	3.5
Elk	25 "	31	11N	14E	7600	1/30	8.0	3.7	4.2	4.6	2	4.4
Maverick Fork	23 "	13	6N	27E	9050	1/29	46.7	14.4	3.6	5.1	2	4.7
Baldy	22 "	28	7N	27E	9000	1/29	38.3	12.3	3.4	3.5	2	3.5
Fort Apache	21 "	18	7N	27E	9000	1/29	38.8	12.6	3.6	2.8	2	3.2
Pacheta	20 "				7800	2/1	16.5	7.1	2.0			
		Average for drainage					17.3	6.0	2.4	2.7		3.2
LITTLE COLORADO RIVER												
Forest Dale*	5 Ariz.	2	9N	21E	6000	2/1	0.0	0.0	1.0	1.2	11	1.5
McNary	4 "	14	8N	23E	7200	2/1	0.0	0.0	2.7	2.3	13	3.4
Nutrioso*	11 "	23	6N	30E	8500	1/31	11.1	3.6	0.9	0.9	14	2.5
Mormon Lake	13 "	13	18N	8E	7350	1/31	17.1	6.3	--	3.9	5	7.8
Fort Valley	12 "	22	22N	6E	7350	2/1	21.6	7.0	1.3	2.2	5	3.1
Gentry	28 "	36	11N	15E	7600	1/30	14.5	5.8	2.5	3.0	2	2.8
Heber	27 "	28	11N	15E	7600	1/30	15.3	6.1	2.7	3.6	2	3.2
Canyon Creek	26 "	18	11N	15E	7500	1/30	17.6	6.8	2.9	4.1	2	3.5
Elk	25 "	31	11N	14E	7600	1/30	13.0	8.7	4.2	4.6	2	4.4
Mormon Mt.	19 "	14	18N	8E	7500	1/31	25.9	9.3	2.7	5.9	2	4.3
		Average for drainage					13.6	5.4	2.3	3.2		3.6

*On adjacent drainage

COLORADO RIVER SNOW SURVEYS
February 1, 1952

Drainage Basin and Snow Course	Location: No. and State	Sec.	Twp.	Range	Elev.	Date of Survey	Snow Depth (Inches)	Water Content (Inches) 1952	1951	1950	Past Record: Yrs. of Record	Av. Water Content (Inches)
					COLORADO RIVER							
VERDE RIVER												
Iron Springs*	7 Ariz.	22	14N	3W	6200	2/1	0.0	0.0	0.0	0.0	6	1.3
Camp Wood	8 "	3	16N	6W	5700	2/1	0.0	0.0	0.3	0.7	6	1.3
Mingus Mountain	4 "	3	15N	2E	7100					1.0	4	2.9
Morman Lake*	13 "	13	18N	8E	7350	1/31	17.1	6.3		2.9	4	7.8
Fort Valley*	12 "	22	22N	6E	7350	2/1	21.6	7.0	1.3	2.2	5	3.1
Chalender*	9 "	27	22N	3E	7100	2/1	18.9	6.1	0.9	3.1	5	3.7
Munds Park	18 "	7	18N	7E	6500	1/31	8.1	3.2	1.2	3.8	2	2.5
Casner Park	17 "	19	18N	8E	6930	1/31	16.5	6.9	2.5	5.3	2	3.9
Mormon Mt.	19 "	14	18N	8E	7500	1/31	25.9	9.3	2.7	5.9	2	4.3
			Average for drainage				13.5	4.8	1.3	2.8		3.4
WILLIAMS RIVER												
Iron Springs	7 Ariz.	22	14N	3W	6000	2/1	0.0	0.0	0.0	0.0	6	1.3
Camp Wood*	8 "	3	16N	6W	5700	2/1	0.0	0.0	0.3	0.7	6	1.3
Willow Ranch	15 "	16	21N	11W	5000	2/1	0.0	0.0	0.0	0.0	5	1.2
			Average for drainage				0.0	0.0	0.1	0.2		1.3
LOWER COLORADO RIVER												
Bright Angel	11 Ariz.	34	33N	4E	8400	2/1	48.9	17.5	2.9	7.7	4	7.1
Grand Canyon	10 "	21	30N	4E	7500	2/1	14.8	4.3	1.1	1.4	4	3.0
Fort Valley	12 "	22	22N	6E	7350	2/1	21.6	7.0	1.3	2.2	5	3.1
Chalender	9 "	27	22N	3E	7100	2/1	18.9	6.1	0.9	3.1	5	3.7
			Average dor drainage				26.1	8.7	1.6	3.6		4.2

*On adjacent drainage

COMBAT/DC BEATS AND AIRFRAME

Federal - State - Private

COOPERATIVE SNOW SURVEYS

Furnishes the basic data necessary for forecasting water supply for irrigation, domestic and municipal water supply, hydro-electric power generation, navigation, mining and industry

"WATER IS THE WEST'S GREATEST RESOURCE"